PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Peter Dwight Spohn et al.		
Title:	INDUCTIVELY HEATABLE COMPONENTS		
App. No.:	10/730,173	Filed:	December 8, 2003
Examiner:	Philip H. Leung	Group Art Unit:	3742
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Commissioner for Patents
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DECLARATION UNDER 37 C.F.R. §1.132

Sir, I hereby declare and state:

1. Since 1971, I have been associated with research and development of polymer films, including polymer films utilized in conveyor belts. I posses relevant technical knowledge gained from over 34 years of manufacturing, engineering, product development, and research experience. In past positions, I conceptualized and designed coating equipment useful in forming polymer films and belts. In my present position with Saint Gobain Performance Plastics, I developed bakeware, toaster conveyor belts, and films for use in the food industry.

2. I have been employed by Saint Gobain Performance Plastics since 1996, wherein I have been mainly engaged in development of films and conveyor belts for use in the food and automotive industries.

3. I have reviewed the claims of the present application. In addition, I have reviewed an excerpt of the Office Action dated December 19, 2005, including the positions taken by the PTO with respect to several prior art references. I have also particularly reviewed the subject matter of US 2,839,651 (Erickson), JP 9-215605 (Uemura), US 6,056,844 (Guiles et al.), and US 2002/0113066A1 (Stark et al.). For the reasons discussed below, the claimed invention would

not have been obvious to one skilled in the art over Erickson or Uemura in view of Guiles et al., or Stark et al.

5. The claimed invention is drawn to a heating belt including a flexible support coated with a composite material. The composite material includes a polymer and inductively-heatable particles. The heating belt may be included in a system for heating an article, which also includes a field generator. The heating belt may be used in a method to heat an article, wherein the article is placed in proximity to the belt and a field is induced about the heating belt.

6. The PTO alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Erickson or Uemura to use inductively heatable particles with the polymer material of the belt "for better heating temperature control and more uniform heating results, in view of the teaching of Guiles et al. or Stark et al. (Page 3, lines 3-4 of the Office Action dated December 19, 2005)."

Erickson is directed to a belt conveyor system and to heating conveyor belts in such systems, and teaches use of load-bearing metal cables to provide the structural backbone of the belt. The conveyor system of Erickson includes an endless flexible rubber-covered belt, which is longitudinally reinforced with flexible stranded metal cables. (Erickson, col. 2, ll. 33-35). The belt of Erickson is particularly adapted to generate heat in the system disclosed by Erickson.

By way of background, to heat the Erickson belt, a heating unit is provided that includes a core, which is a lamination of thin flat plates, each of a metal having high permeability such as transformer iron. The assembled plates define a central opening through which the belt is trained, and the portion of the core that extends above the belt has a coil wound on it. When the terminals of this coil are connected with a source of alternating electrical current (60 Hz AC), an alternating magnetic flux is induced in the core, thereby causing current flow in each of the cables to generate heat resistively. (Erickson, col. 2, line 49 to col. 3, line 15).

Addition of inductively heatable particles to the polymer of the Erickson belt would have little or no influence on the temperature produced by the system of Erickson. Even if heat were to be generated by the inductively heatable particles, heat generated by metal cables would dominate heat generated by inductively heatable particles based on the configuration and nature

of the metal cables. That is heat from the inductively heatable particles would be negligible. Addition of inductively heatable particles to the belt of Erickson would not provide better heating temperature control and would not provide more uniform heating. Furthermore, substitution of the inductively heatable particles for the metal cables of the Erickson belt would adversely affect the integrity of the belt.

Uemura is directed to a steel band belt extended in a movable state between drums and an induction heating coil set in a state that allows it to shift position in the direction of movement of the steel band belt or across it. (Uemura, Abstract). While the system of Uemura may be used to vulcanize sheets of rubber, the belt of Uemura is a steel band belt and does not include a composite or polymer material. As such, the steel band belt of Uemura does not appear to include polymer material to which inductively heatable particles may be added. In any event, adding the inductively heatable particles of Guiles et al. or Stark et al. to the steel band belt would fail to provide the benefits suggested by the PTO for the reasons advanced above with respect to Erickson. Accordingly, the combination of Uemura and Guiles et al. or Stark et al. would not have been obvious.

7. In summary, it is quite clear that modifying Erickson or Uemura to use inductively heatable particles would not produce better heating temperature control and would not produce more uniform heating results.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like, so made, are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

MARCH 21, 2006
Date

Frank Keese